

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A computer-readable storage medium encoded with a speech recognition interface for a speech recognition engine, the interface comprising:

a compiler that produces a binary grammar from a markup language grammar written in a markup language, the markup language grammar comprising rule tags that delimit a grammar structure that may be referenced by other grammar structures within the markup language grammar by a name attribute of the rule tags wherein the name attribute is set within one of the rule tags;

a grammar engine that provides the binary grammar to the speech recognition engine.

2. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 1 wherein the markup language grammar is written in an extensible markup language.

3. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 1 wherein the markup language grammar represents a context-free grammar.

4. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 1 wherein the markup language grammar comprises a switch grammar tag that indicates to the speech recognition engine to switch to a different grammar during the recognition of at least one word.

5. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 4 wherein grammar

switch tag is a dictation tag that indicates to the speech recognition engine to switch to a dictation grammar.

6. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 5 wherein the dictation tag indicates to the speech recognition engine to switch to the dictation grammar during the recognition of more than one word.

7. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 4 wherein the switch grammar tag is a text buffer tag that indicates to the speech recognition engine to switch to a grammar stored in a text buffer.

8. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 7 wherein the text buffer comprises a sequence of words and wherein the speech recognition engine identifies a sub-sequence of the words in the sequence of words from an input speech signal.

9. (Canceled)

10. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 1 wherein the rule tag further comprises an interpreter attribute that indicates that code is to be executed when the grammar structure delimited by the rule tag is recognized by the speech recognition engine.

11. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 10 wherein the markup language grammar further comprises a resource tag indicating at

least one resource to be provided to the code associated with the interpreter attribute.

12. (Currently Amended) The computer-readable storage medium~~speech recognition interface~~ of claim 1 wherein the markup language grammar further comprises a script tag that delimits script code to be interpreted when the grammar structure delimited by a rule tag is recognized by the speech recognition engine.

13. (Currently Amended) A computer-readable storage medium having computer-interpretable instructions comprising:

- an application providing a speech interface that expects to receive speech from the user as possible input; and

- a speech grammar associated with the application and defining valid word patterns for the user's speech, the speech grammar written in a markup language such that a start tag and an end tag having a first tag name that delimit a set of elements of the grammar are located between a second start tag and a second end tag that have a second tag name, the speech grammar comprising rule tags that delimit a valid grammar structure for the grammar and that comprise a name attribute set within a rule tag that is set equal to a name by which the grammar structure can be referenced within the speech grammar.

14. (Currently Amended) The computer-readable storage medium of claim 13 wherein the speech grammar comprises grammar tags representing the outermost tags of the grammar.

15. (Canceled)

16. (Currently Amended) The computer-readable storage medium of claim 13 wherein the speech grammar further comprises rule reference tags that provide a reference to one grammar structure from within a second grammar structure.

17. (Currently Amended) The computer-readable storage medium of claim 13 wherein the rule tags further comprise an interpreter attribute that indicates whether code associated with the rule tags should be invoked when the grammar structure delimited by the rule tags is recognized as from a speech signal.

18. (Currently Amended) The computer-readable storage medium of claim 17 wherein the speech grammar further comprises resource tags that delimit the identity of a resource that is to be provided to the code associated with a rule tag.

19. (Currently Amended) The computer-readable storage medium of claim 17 wherein the code associated with rule tags receives values of semantic properties that have been set because the grammar structure delimited by the rule tags has been recognized from the speech signal.

20. (Currently Amended) The computer-readable storage medium of claim 13 wherein the speech grammar further comprises script tags delimiting script code that is to be interpreted when the grammar structure delimited by a pair of rule tags is recognized from a speech signal.

21. (Currently Amended) The computer-readable storage medium of claim 13 wherein the rule tags comprise a semantic property name attribute and a semantic property value attribute such that the

semantic property represented by the semantic property name is set equal to the semantic property value when the grammar structure delimited by the rule tags is recognized from a speech signal.

22. (Currently Amended) The computer-readable storage medium of claim 13 wherein the speech grammar further comprises grammar switch tags that indicate that a different grammar should be used during a part of the speech recognition.

23. (Currently Amended) The computer-readable storage medium of claim 22 wherein the grammar switch tags comprise dictation tags that indicate that a dictation grammar should be used for the recognition of at least one word in the grammar structure.

24. (Currently Amended) The computer-readable storage medium of claim 22 wherein the grammar switch tags comprise text buffer tags that indicate that sub-sequences of words in a sequence of words should be used as a grammar for the recognition of at least one word in the grammar structure.

25. (Currently Amended) The computer-readable storage medium of claim 13 wherein the speech grammar further comprises phrase tags that delimit at least one word in a grammar structure.

26. (Currently Amended) The computer-readable storage medium of claim 25 wherein the phrase tags comprise a semantic property name attribute and a semantic property value attribute such that the semantic property represented by the semantic property name is set equal to the semantic property value when the at least one word delimited by the phrase tags is recognized from a speech signal.

27. (Currently Amended) The computer-readable storage medium of claim 13 wherein the speech grammar further comprises list tags that delimit a list of alternative grammar structures.

28. (Currently Amended) The computer-readable storage medium of claim 27 wherein the list tags comprise a semantic property name attribute and a semantic property value attribute such that the semantic property represented by the semantic property name is set equal to the semantic property value when at least one of the alternative grammar structures delimited by the list tags is recognized from a speech signal.

29. (Currently Amended) The computer-readable storage medium of claim 13 wherein the grammar comprises optional tags that delimit a grammar structure that can be but does not have to be recognized from a speech signal in order for a grammar structure that contains the optional tag to be recognized from the speech signal.

30. (Currently Amended) A computer-readable storage medium encoded with a data structure~~method of defining a grammar used infor~~ speech recognition, the data structure~~method~~ comprising:

~~delimiting a grammar structure delimited with rule tags~~
that conform to a markup language;

~~delimiting all of the rule tags for the grammar~~
delimited with grammar tags that conform to a markup language.

31. (Currently Amended) The computer-readable storage medium~~method~~ of claim 30 wherein ~~delimiting a grammar structure with the rule tags~~ comprises ~~setting a name attribute of the rule tags so that the grammar structure can be referred to by the name of the rule tags.~~

32. (Currently Amended) The computer-readable storage medium ~~method~~ of claim 30 wherein ~~the delimiting the grammar structure with rule tags~~ comprises ~~setting~~ a value for an interpreter attribute to indicate that code is to be invoked when the grammar structure delimited by the rule tags is recognized from a speech signal.

33. (Currently Amended) The computer-readable storage medium ~~method~~ of claim 32 wherein ~~delimiting the grammar structure with rule tags~~ further comprises ~~ing~~ delimiting a resource identifier delimited within resource tags within the rule tags to identify a resource to be provided to the code associated with the interpreter attribute.

34. (Currently Amended) The computer-readable storage medium ~~method~~ of claim 30 wherein ~~delimiting the grammar structure with rule tags~~ further comprising ~~ing~~ delimiting script code delimited within script tags between the rule tags, the script code to be interpreted when the grammar structure delimited by the rule tags is recognized from a speech signal.

35. (Currently Amended) The computer-readable storage medium ~~method~~ of claim 30 wherein ~~delimiting the grammar structure with rule tags~~ comprises ~~setting~~ a semantic property identifier attribute ~~of the rule tag~~ such that the semantic property identified by the semantic property identifier attribute is set equal to a value when the grammar structure delimited by the rule tags is recognized from a speech signal.

36. (Currently Amended) The computer-readable storage medium ~~method~~ of claim 30 further comprising ~~wherein delimiting the~~

~~grammar structure with rule tags comprises delimiting at least one word of the grammar structure~~ delimited with phrase tags.

37. (Currently Amended) The computer-readable storage medium~~method~~ of claim 36 wherein ~~delimiting at least one word of the grammar structure with the phrase tags comprises setting a semantic property identifier attribute and a semantic property value attribute of the phrase tag such that the semantic property identified by the semantic property identifier attribute is set equal to semantic property value when the at least one word delimited by the phrase tags is recognized from a speech signal.~~

38. (Currently Amended) The computer-readable storage medium~~method~~ of claim 30 further comprising~~wherein delimiting the grammar structure with rule tags comprises delimiting a list of alternative grammar sub-structures delimited with list tags.~~

39. (Currently Amended) The computer-readable storage medium~~method~~ of claim 38 wherein ~~delimiting a list of alternative grammar sub-structures with the list tags comprises setting a semantic property identifier attribute of the list tag such that the semantic property identified by the semantic property identifier attribute is set equal to a value when at least one of the grammar sub-structures in the list of alternative grammar sub-structures is recognized from a speech signal.~~

40. (Currently Amended) The computer-readable storage medium~~method~~ of claim 30 further comprising~~wherein delimiting the grammar structure with rule tags comprises delimiting an optional grammar sub-structure delimited as optional such that the grammar structure delimited by the rule tags can be recognized from a speech signal regardless of whether the optional grammar sub-structure is recognized from the speech signal.~~

41. (Currently Amended) The computer-readable storage medium~~method~~ of claim 30 ~~further comprising wherein delimiting the grammar structure with rule tags comprises including~~ a grammar switch tag in the grammar structure to indicate that a different grammar should be used to recognize at least one word from a speech signal.

42. (Currently Amended) The computer-readable storage medium~~method~~ of claim 41 wherein ~~the~~including a grammar switch tag comprises ~~including~~ a dictation tag to indicate that a dictation grammar should be used to recognize at least one word from the speech signal.

43. (Currently Amended) The computer-readable storage medium~~method~~ of claim 41 wherein ~~the~~including a grammar switch tag comprises ~~including~~ a text buffer tag to indicate that sub-sequences of words from a sequence of words should be used to recognize at least one word from the speech signal.